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| (21) International Application Number: PCT/US (22) International Filing Date: 20 May 1993 (30) Priority data: 07/886,611 20 May 1992 (20.05.92) (71) Applicant: VERTEX PHARMACEUTICALS IN RATED [US/US]; 40 Allston Street, Cambri 02139-4211 (US). (72) Inventor: PEATTIE, Debra, A.; 1716 Cambrid #47, Cambridge, MA 02138 (US). (74) Agents: HALEY, James, F., Jr. et al.; Fish & Ne Avenue of the Americas, New York, NY 10026 | VCORFidge, M | CZ, DE, DK, ES, FI, GB, HÚ, JP, KP, KR, KZ, LK LU, MG, MN, MW, NL, NO, NZ, PL, PT, RO, RU SD, SE, SK, UA, VN, European patent (AT, BE, CH DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN ML, MR, NE, SN, TD, TG).  Published Without international search report and to be republished upon receipt of that report. |
| (54) Title: METHOD OF DETECTING TISSUE-SPECIFIC FK506 BINDING PROTEIN MESSENGER RNAs AND USES THEREOF  |              |  |

## (57) Abstract

A novel mRNA encoding FK506 binding protein (FKBP12) has been identified in human T lymphocytes. The cDNA corresponding to this mRNA has been sequenced and characterized. The mRNA has been shown to be identical in sequence in two regions to two previously known FKBP-encoding sequences and clearly distinct from the two known sequences in the 3' untranslated region (3'UTR). The tissue-distribution of this mRNA also differs from the tissue distribution of the two known mRNAs. DNA probes derived from this transcript encoding a distinct 3'UTR provide a means to detect FKBP12 mRNA in a tissue-specific manner and to use tissue-specific FKBP12 mRNA to monitor rejection of transplanted tissue, and the effects of FK506 immunosuppressant therapy. Nucleic acid sequences which hybridize to these 3'UTRs may also provide a means to modify in vivo production of tissue-specific FKBP mRNA.